

A MODIFIED SWEEP NET FOR QUANTITATIVE SAMPLING¹

J.T. Regensburg²

ABSTRACT: A sweep net having small detachable bags is described.

DESCRIPTORS: Insect net, sweep net, quantitative sampling.

When taking a large number of samples with a sweep net additional time is usually sacrificed transferring an intact sample out of the net bag. The Ward's Natural History Establishment³ has manufactured a "Drosophila net" which is a funnel-shaped aerial insect net designed to hold a replacable vial in the end. Although this system works well, it is restricted to smaller specimens. The use of hook and loop material enables a modified net to be constructed having small detachable bags to hold separate samples (Figs. 1, 2) with no restriction as to specimen size. Hook and loop material was originally designed for the clothing industry as a substitute for zippers. The material comes in strips of two types: one strip consists of many minute nylon loops, the other is made up of minute hooks. The two strips when pressed together form a fairly strong bond which with sudden force can be pulled apart and which will withstand extensive use without replacement. I have used VelcroTM⁴ with great success. It can be purchased at most sewing stores.

A funnel-shaped net bag about 30 cm in length can be used, the small end having an opening about 12 cm in diameter. The larger end is attached to the net ring. The perimeter of the smaller hole is hemmed and a band of loop material 3 cm wide is sewn firmly around the outside edge. It is important that the band be at least 3 cm wide to facilitate addition of the smaller bags in the field. A number of small bags of desired length may then be constructed with openings the size of the outside diameter of this hole in the end of the net bag attached to the net ring. A strip of the hook material about 1 cm wide is sewn around the inside edge of each small bag. If the strip of hook material is too wide the bags will be more difficult to remove. If a

¹Accepted for publication: November 23, 1976

²Miami University Insect Collection, Department of Zoology, Miami University, Oxford, Ohio 45056

³Ward's Biology, Earth Science, and Chemistry Catalog for 1976-77. No. 767, p. 396.

⁴Talon Division of Textron, American Velcro Inc, Manchester, New Hampshire.

reasonably strong nylon material is used the small bag may be ripped off quickly after sampling with no damage. It can then be closed with a rubber band or wire (twist-ties), labeled, and placed in a killing jar before sorting. A different bag can readily be added for another sample. It is suggested that the sample bag be placed in the killing jar as soon as possible to reduce the damage done by spiders collected with the sample.

I have used this method successfully in 650 field hours to collect small acalyptrate Diptera and other orders along shorelines. When counting net sweeps the result is a quantitative sample with specimens in excellent condition.



Figure 1. Sweep net with a replaceable sample bag attached. The net ring is about 30 cm in diameter.

Figure 2. A close-up of the Velcro™ bond partially ripped. The sample bag with the hook material is the lower.

ACKNOWLEDGEMENTS

I would like to acknowledge a useful critique of the manuscript by Dr. D.L. Deonier and Mr. B.A. Steinly. Saralene Regensburg aided in constructing the net bags.